AS300 Upgrade and DAA Consolidation Guide

IMPAX 6.2 or 6.3 to IMPAX 6.5.3

Upgrading an IMPAX AS300 Cluster That Uses Direct Attached Archives

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Note: The IMPAX 6.5.3 software complies with the Council Directive 93/42/EEC Concerning Medical Devices, as amended by Directive 2007/47/EC.

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(Topic number: 7696)

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(Topic number: 122201)

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Getting started

1

Understanding what has changed in IMPAX and the upgrade strategy to follow helps ensure a successful upgrade to IMPAX 6.5.3.

Valid IMPAX upgrade paths

(Topic number: 6607)

Sites can upgrade to IMPAX 6.5.3 from any of these versions of IMPAX (supported versions include any applicable SUs):

- IMPAX 5.2.5—hereafter referred to as IMPAX 5.2
- IMPAX 5.3.1 and 5.3.2—hereafter referred to as IMPAX 5.3
- IMPAX 6.2.1—hereafter referred to as IMPAX 6.2
- IMPAX 6.3.1—hereafter referred to as IMPAX 6.3
- IMPAX 6.4
- IMPAX 6.5, 6.5.1, and 6.5.2

For more detailed information, refer to the *IMPAX 5.x–6.x Service Update and Hot Fix Migration Paths* spreadsheet in the Additional documents section of the IMPAX Knowledge Base > Main Knowledge Base Page.

A site running IMPAX 4.5 can migrate its user data—passwords, IDs, and most preferences—to IMPAX 6.5.3. However, database data cannot be upgraded directly from IMPAX 4.5 to IMPAX 6.5.3. The IMPAX 4.5 database data and schema must first be upgraded to IMPAX 5.2, then to IMPAX 6.5.3. (This can be done during one upgrade, rather than in two separate upgrades.)

Important!

We recommend checking the migration log file after each leg of an upgrade before moving on to the next leg.

For AS300 (Windows) upgrades, also consider the following:

- Since all IMPAX 6.5.3 AS300 servers and Application Servers must be installed on Windows Server 2008 R2 SP1, all upgrades to IMPAX 6.5.3 require forklift upgrades to new or restaged hardware. All AS300 servers and Application Servers in a cluster must use the same operating system. For details on installing Windows Server 2008 R2 SP1, refer to the *IMPAX 6.5.3 AS300 Installation and Configuration Guide*.
- For IMPAX AS300 upgrades, if you are currently on SQL Server 2000 or later, and you want to continue using SQL Server, you must do a forklift upgrade onto new or restaged hardware installed with SQL Server 2008 R2 SP1. For details on installing SQL Server 2008 R2 SP1, refer to the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3* or the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.
- To migrate an IMPAX AS300 cluster from SQL Server to Oracle, contact Agfa Professional Services for assistance. This migration process is not documented in this guide.

For Oracle upgrades, the following considerations apply:

- To migrate an IMPAX cluster from Oracle for Solaris to Oracle on Windows, contact Agfa Professional Services for assistance. This migration process is not documented in this guide.
- If performing a forklift upgrade, ensure that you install the same Oracle edition as the existing production system or else the database migration will fail. For example, if the database on the production system is Oracle Standard Edition, install Oracle Standard Edition when staging the new system. Or, if the database on the production system is Oracle Enterprise Edition, install Oracle Enterprise Edition when staging the new system.

About this guide

(Topic number: 134666)

Important!

Before proceeding with the upgrade of the AS300 server components, ensure that you have completed the tasks outlined in the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

This manual is intended for service and administrative personnel who are charged with upgrading an IMPAX cluster meeting the following criteria to IMPAX 6.5.3:

Criteria	Cluster currently using
IMPAX version	IMPAX 6.2 or 6.3

Criteria	Cluster currently using
	(For details on supported SUs, refer to the *IMPAX 5.x–6.x Service Update and Hot Fix Migration Paths* spreadsheet in the "Additional documents" section of the IMPAX Knowledge Base > Main Knowledge Base Page.)
Operating system	AS300 (Windows-based Database Server)
Database	SQL Server
Archive type	Any direct attached archive, such as CD-R, DVD-R, MOD, or DLT

If the cluster meets the first three criteria but is using only HSM or PACS Store and Remember archiving—no attached archives—then upgrade that cluster according to the procedures documented in the *AS300 Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

If upgrading from IMPAX 5.2 or 5.3 or if upgrading an IMPAX AS3000 (Solaris database) cluster, refer to the guides specifically related to those versions and configurations.

Supported Windows and database versions

(Topic number: 134867)

Be aware of the following limitations related to supported Windows and database versions on various IMPAX servers.

- Since all IMPAX 6.5.3 AS300 servers and Application Servers must be installed on Windows Server 2008 R2 SP1, all upgrades to IMPAX 6.5.3 require forklift upgrades to new or restaged hardware. All AS300 servers and Application Servers in a cluster must use the same operating system. For details on installing Windows Server 2008 R2 SP1, refer to the *IMPAX 6.5.3 AS300 Installation and Configuration Guide*.

- For IMPAX AS300 upgrades, if you are currently on SQL Server 2000 or later, and you want to continue using SQL Server, you must do a forklift upgrade onto new or restaged hardware installed with SQL Server 2008 R2 SP1. For details on installing SQL Server 2008 R2 SP1, refer to the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3* or the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

- To migrate an IMPAX AS300 cluster from SQL Server to Oracle, contact Agfa Professional Services for assistance. This migration process is not documented in this guide.

DAA consolidation

(Topic number: 123304)

A Direct Attached Archive (DAA) is a non-networked long-term storage device directly connected to a server. IMPAX 6.4 and later versions do not support DAA. Therefore, all legacy IMPAX systems with DAA that upgrade to IMPAX 6.5.3 must migrate the obsolete DAA to a network-based archive; that is, to DICOM PACS Store and Remember or to HSM archiving.

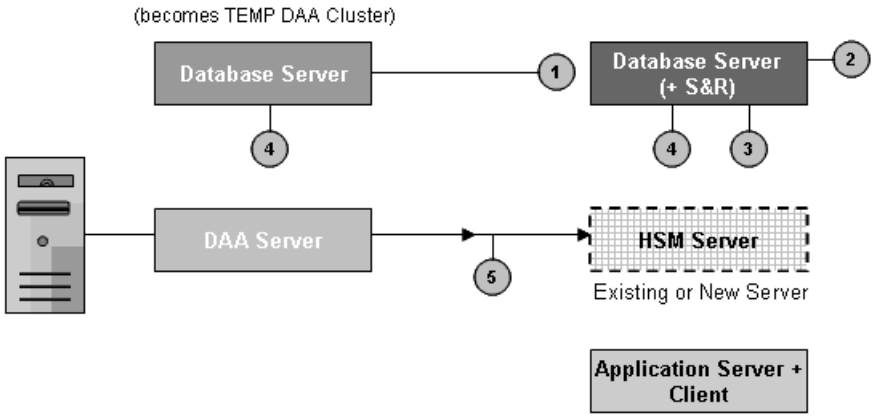
Different methods exist of transitioning the legacy IMPAX cluster to the new archiving method. Tools are available to aid in the effort.

Parallel migration and DAA consolidation overview

(Topic number: 123508)

The following diagram depicts a parallel migration with DAA consolidation scenario that does not require a traveling server. Using this method, the downtime of the production system is reduced to the time required to do a cold backup. The two IMPAX systems in this scenario can function as parallel clinical systems, allowing users to slowly transition to IMPAX 6.5.3.

Previous-version IMPAX production system **IMPAX 6.5.3 parallel system**



After the new IMPAX 6.5.3 cluster is installed, the following high-level tasks are performed:

1. Restore a cold backup from the previous-version production system to the new IMPAX 6.5.3 system.
2. Upgrade Oracle and the database schema on the IMPAX 6.5.3 system.
3. Convert the DAA entries to PACS Store and Remember on the IMPAX 6.5.3 cluster and confirm that DAA studies are accessible.
4. Perform de-referencing tasks (remove reference to DAA locations) on the IMPAX 6.5.3 and previous IMPAX clusters.
5. Attach an HSM server to the IMPAX 6.5.3 cluster and use Volume Migration Tool to migrate archive data from DAA to HSM.

This is the upgrade method documented for IMPAX AS300 4.5, 5.2, or 5.3 clusters that use DAA and for IMPAX AS3000 5.2 or 5.3 clusters that use DAA.

Details are available in the *AS300 Upgrade and DAA Consolidation Guide—IMPAX 5.2 or 5.3 to IMPAX 6.5.3* or the *AS3000 Upgrade and DAA Consolidation Guide—IMPAX 5.2 or 5.3 to IMPAX 6.5.3*.

IMPAX 6.2 or later DAA consolidation with existing hardware

(Topic number: 125319)

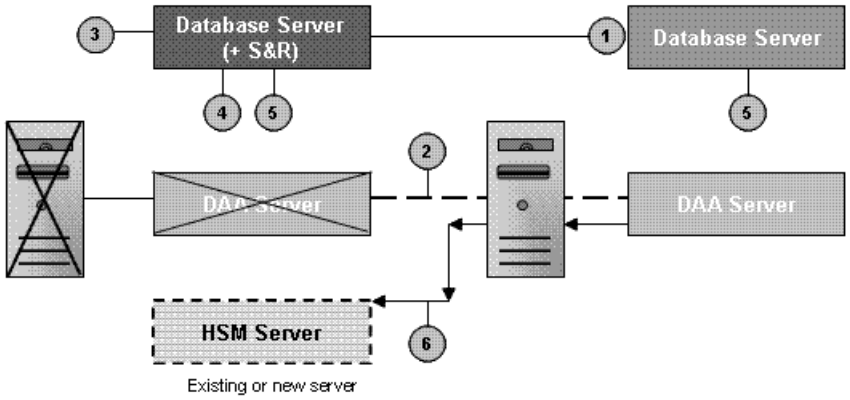
The following diagram depicts an IMPAX 6.2 or later DAA consolidation scenario. With this method, additional hardware is required to function as the Database Server of a temporary DAA cluster. The estimated downtime is the time required for the cold backup and the upgrade of the existing production system to IMPAX 6.5.3.

Note:

The IMPAX 6.5.3 AS300 server platform is Windows Server 2008 R2 SP1. Existing servers can be restaged with this operating system, assuming that the hardware is 64-bit compatible. All Database Server upgrades are forklift upgrades, involving fresh installations onto restaged or new hardware.

IMPAX 6.2 or later production system (upgrades to IMPAX 6.5.3)

Temporary DAA cluster



After the temporary DAA cluster is installed with IMPAX 6.2 or later software (the IMPAX version currently being used in production), the following high-level tasks are performed:

1. Restore a cold backup from IMPAX 6.2 or later production system to the temporary DAA cluster.
2. Detach the DAA server from the IMPAX 6.2 or later production system and make it part of the temporary DAA cluster.
3. Upgrade the database, schema, and IMPAX software on the IMPAX 6.2 or later production system.

   (Upgrades of AS300 servers to IMPAX 6.5.3 are forklift upgrades, involving fresh installations onto restaged or new hardware.)
4. Convert DAA entries to PACS Store and Remember on the upgraded IMPAX 6.5.3 production cluster.

5. Perform de-referencing tasks (removing DAA references) on both the IMPAX 6.5.3 and the temporary DAA clusters.
6. Attach an HSM server to the IMPAX 6.5.3 cluster and use Volume Migration Tool to migrate archive data from DAA to HSM.

This is the upgrade method documented for IMPAX AS300 and IMPAX AS3000 6.2 or later clusters using DAA.

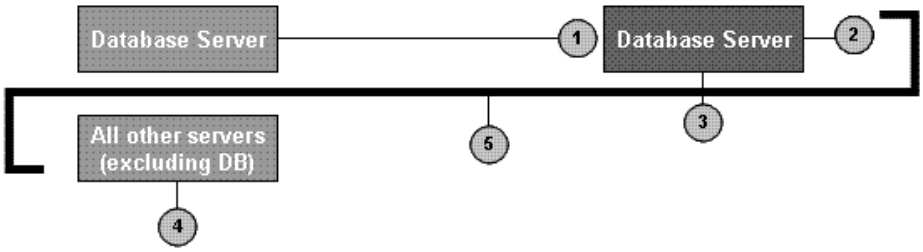
Backup and restore migration with new hardware

(Topic number: 125325)

The following diagram depicts a backup and restore migration in which new hardware is deployed instead of the existing servers being upgraded. This scenario is a non-parallel migration. If the site is refreshing the entire production hardware, a traveling server may not be required. If using a traveling server, the estimated downtime is the time to transition to the traveling server and back to the migrated IMPAX 6.5.3 system.

IMPAX production system running earlier version

IMPAX 6.5.3 with new hardware for Database Server



After the new IMPAX 6.5.3 cluster is installed, the following high-level tasks are performed:

1. Restore a cold backup from the existing IMPAX production system to the new IMPAX 6.5.3 system.
2. Upgrade Oracle and the database schema on the IMPAX 6.5.3 system.
3. Perform de-referencing tasks on the IMPAX 6.5.3 system as required.
4. Upgrade any servers (such as Network Gateways) that are to be reused to IMPAX 6.5.3.
5. Transition to the new migrated IMPAX 6.5.3 system (on the new hardware).

This method is not the one documented in this guide, though the individual tasks are similar to those done for the documented method.

Purpose of the Parallel and Volume Migration Tools

(Topic number: 123298)

With any IMPAX upgrade, you must use some of the tools and scripts included with the IMPAX 6.5.3 Migration Toolbox to extract relevant database information and upgrade the database schema. The IMPAX migration tools are in a dedicated Migration CD ISO.

When having to convert DAA entries—no longer supported in IMPAX 6.5.3—to PACS Store and Remember and HSM archiving (which is supported), two additional tools are required:

1. Parallel Migration Tool Set (PMTS), which de-references and re-references all of the cache and archive locations, and update all relevant database tables.
2. Volume Migration Tool (VMT), which performs the archive migration from the direct attached archive to HSM.

These tools are available from Agfa. They are **not** distributed with the IMPAX software.

Preparing to upgrade

2

Important!

Before proceeding with the upgrade of the AS300 server components, ensure that you have completed the tasks outlined in the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

You must perform certain preparatory tasks before upgrading to an IMPAX 6.5.3 AS300 configuration. These tasks include taking a system snapshot, stopping the transmission of data to the previous release of IMPAX, and halting and emptying queues.

1. Recording the names of previously installed IMPAX AS300 software packages

(Topic number: 29655)

Before upgrading IMPAX, record the currently installed package names. It is useful to know these before installing IMPAX 6.5.3.

The procedure for locating the package names differs depending on what version you are upgrading from.

To record the names of previously installed IMPAX 6.4 or later AS300 software packages

1. On the IMPAX 6.4 or later server, open Control Panel.
2. Select **Add or Remove Programs**.
3. Select **AGFA IMPAX AS300** and click **Change**.
4. After the installer launches, click **Modify**.
5. Click **Next**.

6. Make note of the installed packages.
7. When done, to avoid changing the packages, click **Cancel**.

To record the names of previously installed IMPAX 6.2 or 6.3 AS300 software packages

1. On the IMPAX 6.2 or 6.3 Windows server to upgrade, select **Start** > **Run**.
2. In the Open field, type **regedit** and click **OK**.
3. In the Registry Editor, select **HKEY_LOCAL_MACHINE\SOFTWARE\Mitra Imaging Inc.** and **HKEY_LOCAL_MACHINE\SOFTWARE\Mitra** and make note of the installed packages (refer to page 59).

2. Taking a system snapshot

(Topic number: 7613)

Before upgrading to IMPAX 6.5.3, use the migration_inventory tool to capture the current state of the system for later comparison. Perform this task on any computer that has access to the AS300 database to be migrated and on which the Migration Tools have been installed.

To take a system snapshot

1. At a command prompt, change to the **C:\mvf-mig6\bin** directory.
2. Type

   migration_inventory -d *database_name* -U *database_user_name* -P *database_password* -s -D *Database_Server_host_name*

   The output is stored in the migration_info table. It lists the number of IMPAX studies, total objects, and objects in cache. It also lists all IMPAX source stations and DICOM printers.
3. To create a report file with this information, type

   mig_reporter -t system_inventory_tool

   This command writes the output of the migration_inventory command to a report file in the C:\mvf-mig6\reports directory.

3. Staging a temporary Database Server for DAA consolidation

(Topic number: 125422)

To later perform DAA consolidation, stage new hardware as a Database Server running the same version of IMPAX and SQL Server as the production cluster. For instructions, refer to the appropriate installation guide: *IMPAX 6.2 AS300 Installation Guide*, *IMPAX 6.3 AS300 Installation Guide*, or *IMPAX 6.4 AS300 Installation Guide*.

The temporary DAA cluster will need an Application Server, so move an existing one to this cluster, install a new server with the Application Server software from the same version of IMPAX as the production cluster, or if supported, install the Application Server software on the temporary DAA Database Server. For instructions, refer to the appropriate installation guide: *IMPAX 6.2 Application Server Installation and Upgrade Guide*, *IMPAX 6.3 Application Server Installation and Upgrade Guide*, or *IMPAX 6.4 Application Server Installation and Configuration Guide*.

4. Emptying Connectivity Manager queues

(Topic number: 113307)

Before shutting down IMPAX to upgrade the system, empty all DM Out or impax_report_server queues. Consult Connectivity Manager service personnel to discuss queues that have error transactions.

To empty Connectivity Manager queues

1. In Connectivity Manager, open Service Tools and click **Queue Manager**.
2. Select any device with either pending or error transactions and empty the queues.
3. Retry recent messages and delete older messages, since newer transactions may have updated patient, study, and report data after these transactions entered an error state.

5. Stopping Connectivity Manager interfaces

(Topic number: 113766)

During the IMPAX upgrade, you can prevent the loss of clinical patient updates from hospital information systems by stopping data bound for the Connectivity Manager, or by stopping the Connectivity Manager's outbound queues. The preferred method is to stop inbound interfaces, which prevents the Connectivity Manager from receiving incoming messages.

Coordinate with hospital information system personnel to confirm that they are capable of holding messages in queues. If the information system queues can be stopped, also stop the Connectivity Manager's inbound interfaces.

To stop Connectivity Manager interfaces

1. In Connectivity Manager, open **Service Tools**.

   The Device Manager displays a list of devices and interfaces and their status.
2. To re-sort and group all device classes, click **Class**.
3. Scroll down to view `CMSI` and `HL7` class devices.
4. Note which `HL7 In` and `CMSI In` interfaces are started. These interfaces must be restarted after the IMPAX upgrade.
5. Select the checkbox beside each of the started inbound interfaces.
6. Click **Stop**.

The status of each selected interface changes to `Stopped`.

6. Stopping Connectivity Manager queues

(Topic number: 67550)

If the Connectivity Manager's inbound devices have not been stopped, stop the IMPAX outbound DM Out and impax_report_server queues prior to shutting down IMPAX for the upgrade. Messages in stopped queues are not processed and remain in the queue until the queue is restarted. Outbound queues are restarted automatically if the Agfa Connectivity service is restarted, or if the Connectivity Manager server is restarted.

To stop Connectivity Manager queues

1. In Connectivity Manager, open Service Tools and click **Queue Manager**.
2. In the Queue List table, select the checkbox beside each queue belonging to a device with a DM Out or impax_report_server component.
3. Click **Stop**.

   The status of the queues changes to `Stopped`.

Connectivity Manager outbound message queues must be configured with the new server settings before messages are added to the queues. Consult a Connectivity Manager integrator to create a device for the destination IMPAX server. Report updates can be sent to only one IMPAX server, after all reports have been copied to that server.

7. Stopping data transmission to IMPAX

(Topic number: 59513)

Allow remaining SEND jobs to continue until they have finished, then stop any more studies from being transmitting in the IMPAX system.

To stop data transmission to IMPAX

1. Open the Windows Administrative Tools and select **Services**.
2. Right-click the **DICOM Service Class Provider** service and select **Properties**.
3. To change the Service status, click **Stop**.
4. From the Startup type list, select **Disabled**.
5. To close the Properties dialog, click **OK**.
6. Launch Administration Tools and log in as user **service**.
7. On the Daily tab, select **Job Manager**.
8. Monitor each Transmit queue and wait for all outgoing jobs to finish.

   You cannot delete jobs in progress.

9. Select each Transmit queue and click **Halt Queue**.
10. To confirm that you want to halt the queue, click **Yes**.

8. Archiving remaining unarchived studies

(Topic number: 7742)

Use the information from the latest report on archiving studies to identify remaining unarchived studies (for details, refer to the appropriate version of the *IMPAX Preparing to Upgrade Guide*). You must store these studies to the archive.

1. Verifying unverified studies

(Topic number: 60054)

Before archiving studies, verify all unverified studies.

To verify unverified studies

1. In Administration Tools, on the Daily tab, click **Study Manager**.
2. From the location list, select **Failed Verification**.
3. Set other search criteria to **Any** value.
4. Click **Refresh**.
5. In the search results, select all studies.
6. To fix up the studies that have failed HIS verification, click **Fix All Studies**.
7. Review the results presented in the dialog.

2. Storing unarchived studies

(Topic number: 58298)

When no studies are returned by the Failed verification query, archive all remaining studies.

To store unarchived studies

1. In the 6.2 or later Administration Tools, on the Daily tab, click **Study Manager**.
2. From the location list, select **Cached** (or another value that will return the unarchived studies).
3. Set other search criteria to **Any** value (or set to appropriate values).
4. Click **Refresh**.
5. In the search results, select the studies to archive.

The Location column on the results list shows the current location of the study, and indicates which studies are only in cache (`C` for system cache, `L` for local station cache, `W` for web cache) and not also in an archive location (such as `P` for PACS archive).

6. Click **Store to Archive**.
7. To update the status of the selected studies, click **Refresh**.
8. Ensure that all studies are archived.

Tip:

To store unarchived studies, you could also use the Migration Toolbox and run the study_archive_report tool. For details, see "Running an initial report on study archiving status" (topic number 6630) in the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3* or the *AS3000 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

9. Closing and mirroring archive volumes

(Topic number: 7733)

Close all open primary volumes before upgrading. Open mirror volumes are closed automatically when a SYNC job completes successfully with the corresponding closed primary volume. Fresh volumes may remain open, as they do not contain any studies.

To close and mirror archive volumes

1. In the 6.2 or later Administration Tools, on the Setup tab, select **Archive Manager**.
2. Switch to the **Volumes** tab.
3. Select a logical volume and click **Close Logical Volume**.
4. If the system has a jukebox archive, you may have to wait for the sync job to finish.

   If the system has a non-jukebox archive, to ensure that a backup of the data exist, perform a mirror procedure manually.
5. On the Daily tab, select **Job Manager**.
6. Check the Delivery Date Time column for jobs that are not scheduled to run until later. If any exist, schedule these jobs to complete now, using the **Set Delivery Date and Time** option at the top.

10. Emptying all queues

(Topic number: 7702)

Monitor the Job Manager to make sure that all the queues are empty and that all jobs are completed prior to the upgrade.

To empty all queues

1. In the 6.2 or later Administration Tools, on the Daily tab, select **Job Manager**.
2. If an archive job remains in any of the queues, select the job and click **Expedite Selected Job(s)**.
3. If any other job remains in any of the queues, select the job and click **Delete selected job(s)**.

11. Halting all queues

(Topic number: 59660)

Halt all queues until the upgrade is done.

To halt all queues

1. In the Administration Tools, on the Daily tab, select **Job Manager**.
2. In the queue list, select **All Queues**.
3. Click **Halt Queue**.
4. To confirm that you want to halt the queues, click **Yes**.

12. Stopping antivirus software

(Topic number: 7616)

If you have antivirus software installed on any Windows-based servers, ensure that no scan jobs are running that would interfere with the upgrade process. Stop the antivirus services.

To stop antivirus software

1. On a Windows server to upgrade, launch the antivirus software.
2. Halt the scan operation according to the vendor's instructions.

13. Clearing the archive Logical Volume

(Topic number: 7734)

To avoid conflicts when upgrading, clear the archive Logical Volume. IMPAX re-creates the Logical Volume folders and files afterward. (If replacing the existing server with a new one, this task is not required.)

CAUTION!

Ensure that the Logical Volume is empty before deleting it. If it is not empty, create a store job to archive the images in the Logical Volume.

To clear the archive Logical Volume

1. In the 6.2 or later Administration Tools, on the Setup tab, select **Archive Manager**.
2. Select the Logical Volume and click **Close**.
3. At the Close Volume prompt, click **Yes**.
4. Ensure that the Archive queue is halted.
5. Delete the Logical Volume folder and files from the drive.

The Logical Volume folder and files are automatically re-created by IMPAX.

14. Deleting old log files

(Topic number: 7706)

Important!

This topic applies only when upgrading an existing server (in-place upgrade).

On the server being upgraded, remove any old log files to ensure that all future log information is a result of the upgrade procedure.

To delete old log files

1. On the server to be upgraded, open a command prompt.
2. Change to the **C:\mvf\bin** directory.
3. Run **stopall.bat**.
4. For future reference, copy all files in C:\mvf\data\logs\ to a backup location.
5. Delete all the log files from C:\mvf\data\logs.

CAUTION!

If you are running Oracle on Windows, do not delete the C:\mvf\data\logs\oracle directory.

Assembling the temporary DAA cluster

3

To upgrade rather than replace the existing Database Server but also perform the tasks necessary to transition from a direct attached archive (DAA) to an archive method supported in IMPAX 6.5.3, use the temporary IMPAX Database Server that was staged earlier (refer to page 16). You then back up the existing SQL Server database, restore that onto the temporary DAA Database Server, then move the DAA server from the production cluster to the temporary DAA cluster.

1. Backing up the IMPAX production database

(Topic number: 123343)

Perform a complete backup of the existing production database, to then be restored on the temporary DAA Database Server. Services are stopped and removed as part of this process, so time it to minimize disruption at the site, or use a travelling server during this period.

To back up the IMPAX production database

1. On the IMPAX production Database Server, open a command prompt.
2. Change to the **C:\mvf\bin** directory.
3. Type

   stopall.bat
4. Type

   removeall.bat

   Previous IMPAX versions may have a scheduled task to watch for stopped services and restart them. The removeall.bat script removes the services (not the software itself), so that the services cannot be restarted. This ensures that the system is cold so the backup is complete.
5. Repeat the preceding steps on the other IMPAX server stations in the production cluster.
6. On the production Database Server, go to or open a command prompt and type

isqlw

7. When prompted, type **sa** as the user name and type the sa password.
8. To back up the database, type

   backup database mvf to disk = '*file_path*:\mssql\backup\oldserver.dat' with stats

   where *file_path* is the location of the database files. For example

   backup database mvf to disk = 'C:\Program Files\Microsoft SQL Server\MSSQL\BACKUP\oldserver.dat' with stats, init
9. At the next command prompt, type

   backup log mvf to disk = '*file_path*:\mssql\backup\oldserver.dat' with stats

   The oldserver.dat produced contains two files: the database backup and the transaction log backup.
10. From the C:\mvf\bin directory, type

    installall.bat

    This restores the services removed earlier.
11. To start up IMPAX, type

    startall.bat

2. Restoring the database on the new SQL Database Server

(Topic number: 7627)

CAUTION!

Perform this task only when replacing an existing server with a new server. Be very careful not to delete any live database files. Perform this procedure only on a new server that has not had any clinical use, even as a training server. Do not perform this procedure on any production, training, or traveling servers.

When replacing the existing server with a new server, you first install the IMPAX 6.5.3 server software on the new server. You then restore the backed-up database on the new server, as described in this topic, before upgrading the schema.

To restore the database on the new SQL Database Server

1. Ensure that the new server database partition is as large as the original physical data files.

   Independent of the size of the backup, the restore causes the new data files to be as large as the original ones.
2. If not already done, shut down related services.

a. To stop the IMPAX services, on all servers in the cluster, open a command prompt and type

   stopall.bat

b. Shut down all applications that usually connect to the SQL Server database. Under Services, stop the SQL Server agent. Also, shut down the SQL Server Query Analyzer when not using it as part of the restore process.

c. On the Application Server, open the Windows Administrative Tools and select **Services**. Right-click each of the following and select **Stop**: **IMPAX App Server Data Manager**, **IMPAX Audit Event Log Manager**, **IMPAX Dicom Object Sender**, **IMPAX Distributed License Manager**, **IMPAX Messaging Service**, and **World Wide Web Publishing**.

3. Before starting the restore, confirm that the directory that will contain the mvf database file has the correct permission:
   a. In Windows Explorer, right-click the folder and select **Properties**.
   b. Switch to the **Security** tab.
   c. Click **Edit**.
   d. Click **Add**.
   e. Select **ImpaxSQLUser** and click **OK**.
   f. Grant **Full Control** to ImpaxSQLUser and click **OK**.
   g. To close the Properties dialog, click **OK**.
4. If you are restoring from tape, insert the backup tape into the tape drive.
5. In the Explorer window of the SQL Server Management Studio, expand ***server*** > **Databases** where *server* is the name of the SQL Server that IMPAX is running under.
6. Right-click **Database** and select **Restore Database**.
7. In the Destination for restore section, in the To database field, type **mvf**.
8. In the Source for restore section, select **From device** and specify the backup media and location.
9. Under Select the backup sets to restore, select the **mvf-Full Database Backup** set.
10. Select the **Options** page.
11. In the Restore the database files section, change the location of the data files as needed.
12. Select **Leave database ready to use by rolling back uncommitted transactions. Additional transaction logs cannot be restored.** Click **OK**.

    The database is restored. A message confirms a successful restore.
13. Create IMPAX-specific users:
    a. Open SQL Server Management Studio.
    b. Open a new query window.
    c. Select **File** > **Open** and browse to C:\mvf\etc.
    d. Select **add_group.sql** and click **Open**.
    e. To execute the script, press **F5** or click **Execute**.

f. Execute the **procedures_mvf.sql** and **recreate_user_mvf.sql** scripts as well.

14. To update the statistics for performance reasons, open a SQL Server Management Studio query window and type

    use mvf

    exec sp_updatestats

    go

15. In a command prompt, change to the **C:\mvf\bin** directory.
16. Type **clui** and confirm that you can successfully query the database.
17. On the Application Server, open the Windows Administrative Tools and select **Services**. Right-click each of the following services and select **Properties**. From the Startup type list, select **Automated**. Click **Start**, then click **OK**.
    a. **IMPAX App Server Data Manager**
    b. **IMPAX Audit Event Log Manager**
    c. **IMPAX Dicom Object Sender**
    d. **IMPAX Distributed License Manager**
    e. **IMPAX Messaging Service**
    f. **World Wide Web Publishing**

3. Detaching the DAA server from the IMPAX 6.2 or later production cluster

(Topic number: 125340)

After restoring the database on the temporary DAA system, detach the DAA server from the IMPAX 6.2 or later production cluster and move it to the temporary DAA system.

To detach the DAA server from the IMPAX 6.2 or later production cluster

1. Ensure that both the temporary DAA system and the IMPAX 6.2 or later production system are shut down (all queues halted).
2. Physically move the DAA server from the production cluster and make it part of the temporary DAA cluster.
3. On the temporary DAA Database Server, restart all stopped job queues.
    a. Log into the IMPAX Administration Tools.
    b. On the Daily tab, select **Job Manager**.
    c. From the Queue list, select **All queues**.
    d. Click **Restart Queue**.
    e. To confirm the restart, click **Yes**.

f. Close the Administration Tools.

The IMPAX 6.2 or later cluster can remain stopped as this system will be upgraded to IMPAX 6.5.3.

Upgrading the existing cluster to IMPAX 6.5.3

4

You can now upgrade the production servers to IMPAX 6.5.3, starting with the Database Server.

Note:

The IMPAX 6.5.3 AS300 server platform is Windows Server 2008 R2 SP1. Existing servers can be restaged with this operating system, assuming that the hardware is 64-bit compatible. All Database Server upgrades are forklift upgrades, involving fresh installations onto restaged or new hardware.

1. Staging the new IMPAX 6.5.3 Database Server

(Topic number: 147160)

Before proceeding with the forklift upgrade, if not already done, stage a new IMPAX 6.5.3 Database Server (in a single-host, dedicated Database Server, or all-in-one configuration, as applicable).

Important!

Give the new Database Server the same host name as the existing production Database Server. (This also applies to any other servers in the IMPAX cluster.) Network drive letters also should remain the same for the SQL database, caches, HSM archive, and so on.

The following is a high-level overview.

To stage the new IMPAX 6.5.3 Database Server

1. Install Windows Server 2008 R2 SP1. For details, see " Installing and configuring Windows Server 2008 R2" (topic number 141323) in the *IMPAX 6.5.3 AS300 Installation and Configuration Guide*.

2. Install SQL Server 2008 R2 SP1. For details, see "Installing SQL Server 2008 R2" (topic number 141825) in the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

   After installing SQL Server 2008 R2 SP1, confirm through SQL Server Management Studio that the version is `SQL Server 10.50.2500`.

3. Install the Migration Toolbox. For details, see "Installing the Migration Toolbox on a Windows server" (topic number 11493) in the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

4. If installing an all-in-one server (all AS300 Server and Application Server components are installed on the same computer), install and configure the IMPAX 6.5.3 Application Server. For details, see the *IMPAX 6.5.3 Application Server Installation, Upgrade, and Configuration Guide*.

2. Installing the IMPAX 6.5.3 AS300 packages on a new SQL Database Server

(Topic number: 125936)

To install IMPAX AS300 Server, you must be logged into Windows as an administrator-level user.

Use the IMPAX installer to install the necessary AS300 packages on the system. These packages are described in *AS300 installer packages reference* (refer to page 57).

To install the IMPAX 6.5.3 AS300 packages on a new SQL Database Server

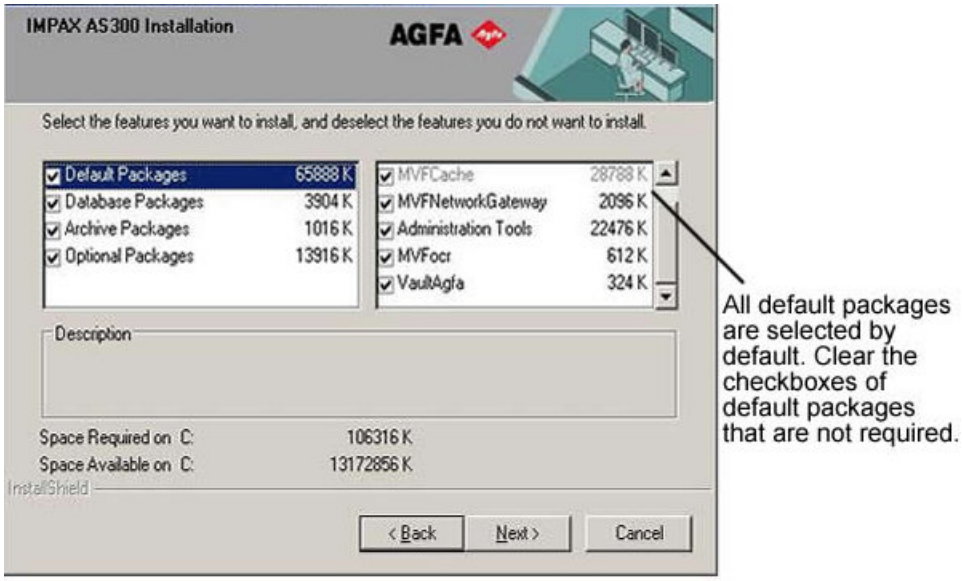
1. Insert the IMPAX AS300 DVD or access the ISO file.
2. Double-click **as300-installer.exe**.
3. Type your name (minimum three characters).

   This information is recorded in the installer log file.

4. On the Welcome screen, click **Next**.
5. On the Select features screen, all Default Packages are selected. Clear the checkboxes of any packages that should not be installed.

   For a dedicated Database Server, normally clear the **MVFNetworkGateway** and **MVFocr** checkboxes.

   For a single-host server, normally all Default Packages are required except, potentially, **MVFocr**.


IMPAX AS300 Installation
AGFA
Select the features you want to install, and deselect the features you do not want to install.
Default Packages 65888 K
Database Packages 3904 K
Archive Packages 1016 K
Optional Packages 13916 K
MVFCache 28788 K
MVFNetworkGateway 2096 K
Administration Tools 22476 K
MVFocr 612 K
VaultAgfa 324 K
Description
Space Required on C: 106316 K
Space Available on C: 13172856 K
InstallShield
< Back
Next >
Cancel
All default packages are selected by default. Clear the checkboxes of default packages that are not required.

6. Select the **Database Packages** label.
7. Clear the **Oracle Server Extension** checkbox and select the **SQL Server Extension** checkbox.
8. For a dedicated Database Server (no archive), or if using PACS Store and Remember archiving only, clear the **Archive Packages** checkbox.
9. Select the **Optional Packages** label, then select the checkboxes of any optional packages that should be installed.
    - Select the **MVFCurator** and **MVFcdexport** checkboxes only if intending to install the Curator and CD Export server components on the Database Server rather than on a dedicated Curator server.
    - Select the **MVFpap** package only if the server is being used for archiving.
    - Clear the **MVFchangeaccepter** checkbox.
    - Do **not** select the MVFScavenger or the MVForadg checkbox.
10. Click **Next**.
11. If a Network Gateway package was installed, browse to the location of the MVF license file and click **OK**.

    If the mvf.lic file is not located in C:\mvf, the file is copied to that location. A dialog informs you of the success of the copy task.
12. If an Archive package was installed, browse to the location of the archive license file and click **OK**.

    If the mvfarch.lic file is not located in C:\mvf, the file is copied to that location. A dialog informs you of the success of the copy task.
13. At the `Confirm: Your existing database is compatible with this version` prompt, click **Yes**.

14. On the Summary screen, to continue the installation, click **Next**.
15. After all the packages have been installed, click **Yes, I want to restart my computer now**.

    If you are not prompted to restart the computer, manually restart it.

After the server restarts, log into Windows as an administrator-level user.

3. Backing up the SQL 2000 database

(Topic number: 11497)

Back up the existing SQL Server database so that you can restore it onto the new IMPAX 6.5.3 Database Server.

Note:

Before backing up the database, confirm that you have stopped the IMPAX services, emptied and halted all queues, and shut the database down.

More details are available in *Preparing to upgrade* (refer to page 15).

To back up the SQL 2000 database

1. On the server running the AS300 database, select **Start** > **All Programs** > **Microsoft SQL Server** > **Enterprise Manager**.
2. In the Explorer window of the Enterprise Manager, expand **Console Root** > **Microsoft SQL Servers** > **SQL Server Group** > ***server*** > **Databases** > **MVF**

   where *server* is the name of the SQL Server IMPAX is running under.
3. Select **Action** > **All Tasks** > **Backup database**.
4. In the SQL Server Backup screen, in the Backup section, select **Database–complete**.
5. Click **Add** and specify the directory to back up to.
6. To start the backup, click **OK**.
7. Exit the SQL Server Enterprise Manager.

4. Backing up the SQL 2005 or SQL 2008 database

(Topic number: 121632)

Back up the existing SQL Server database so that you can restore it onto the new IMPAX 6.5.3 Database Server.

Note:

Before backing up the database, confirm that you have stopped the IMPAX services, emptied and halted all queues, and shut the database down.

More details are available in *Preparing to upgrade* (refer to page 15).

Ensure that you are logged in using the AgfaService account; you cannot log into SQL Server Management Studio or back up the database from the command line using the Administrator account.

To back up the SQL database using SQL Server Management Studio

1. Select **Start** > **All Programs** > **Microsoft SQL Server**.
2. Right-click **SQL Server Management Studio** and select **Run as**.
3. Select **The following user**. Type **AgfaService** as the user name, and the AgfaService password.

   If you do not know the AgfaService password, you can run the passkey utility to find it: **passkey -M QUERY -u AgfaService**.
4. In the Object Explorer window, expand ***server*** > **Databases** > ***database_name***

   where *server* is the name of the SQL Server that IMPAX is running under and *database_name* is the name of the database to be backed up.
5. Right-click ***database_name*** and select **Tasks** > **Backup**.
6. Configure the General and Options tabs according to your preferences for items such as the type of backup, the destination, and whether to overwrite or append to the media.
7. To start the backup, click **OK**.
8. Exit the SQL Server Management Studio.

To back up the SQL database from the command line

1. At a command prompt, type

   sqlcmd -U sa -P *sa_password* -dmaster
2. To back up the database, type

   backup database *database_name* to *device_name*

   where *database_name* is the name of the database to back up and *device_name* is the logical or physical name of the tape or disk device.

5. Restoring the database on the new SQL Database Server

(Topic number: 7627)

CAUTION!

Perform this task only when replacing an existing server with a new server. Be very careful not to delete any live database files. Perform this procedure only on a new server that has not had any clinical use, even as a training server. Do not perform this procedure on any production, training, or traveling servers.

When replacing the existing server with a new server, you first install the IMPAX 6.5.3 server software on the new server. You then restore the backed-up database on the new server, as described in this topic, before upgrading the schema.

To restore the database on the new SQL Database Server

1. Ensure that the new server database partition is as large as the original physical data files.

   Independent of the size of the backup, the restore causes the new data files to be as large as the original ones.

2. If not already done, shut down related services.
   a. To stop the IMPAX services, on all servers in the cluster, open a command prompt and type

      stopall.bat

   b. Shut down all applications that usually connect to the SQL Server database. Under Services, stop the SQL Server agent. Also, shut down the SQL Server Query Analyzer when not using it as part of the restore process.

   c. On the Application Server, open the Windows Administrative Tools and select **Services**. Right-click each of the following and select **Stop**: **IMPAX App Server Data Manager**, **IMPAX Audit Event Log Manager**, **IMPAX Dicom Object Sender**, **IMPAX Distributed License Manager**, **IMPAX Messaging Service**, and **World Wide Web Publishing**.

3. Before starting the restore, confirm that the directory that will contain the mvf database file has the correct permission:
   a. In Windows Explorer, right-click the folder and select **Properties**.

   b. Switch to the **Security** tab.

   c. Click **Edit**.

   d. Click **Add**.

   e. Select **ImpaxSQLUser** and click **OK**.

   f. Grant **Full Control** to ImpaxSQLUser and click **OK**.

g. To close the Properties dialog, click **OK**.

4. If you are restoring from tape, insert the backup tape into the tape drive.
5. In the Explorer window of the SQL Server Management Studio, expand ***server*** > **Databases** where *server* is the name of the SQL Server that IMPAX is running under.
6. Right-click **Database** and select **Restore Database**.
7. In the Destination for restore section, in the To database field, type **mvf**.
8. In the Source for restore section, select **From device** and specify the backup media and location.
9. Under Select the backup sets to restore, select the **mvf-Full Database Backup** set.
10. Select the **Options** page.
11. In the Restore the database files section, change the location of the data files as needed.
12. Select **Leave database ready to use by rolling back uncommitted transactions. Additional transaction logs cannot be restored.** Click **OK**.

    The database is restored. A message confirms a successful restore.
13. Create IMPAX-specific users:
    a. Open SQL Server Management Studio.
    b. Open a new query window.
    c. Select **File** > **Open** and browse to C:\mvf\etc.
    d. Select **add_group.sql** and click **Open**.
    e. To execute the script, press **F5** or click **Execute**.
    f. Execute the **procedures_mvf.sql** and **recreate_user_mvf.sql** scripts as well.
14. To update the statistics for performance reasons, open a SQL Server Management Studio query window and type

    use mvf

    exec sp_updatestats

    go
15. In a command prompt, change to the **C:\mvf\bin** directory.
16. Type **clui** and confirm that you can successfully query the database.
17. On the Application Server, open the Windows Administrative Tools and select **Services**. Right-click each of the following services and select **Properties**. From the Startup type list, select **Automated**. Click **Start**, then click **OK**.
    a. **IMPAX App Server Data Manager**
    b. **IMPAX Audit Event Log Manager**
    c. **IMPAX Dicom Object Sender**
    d. **IMPAX Distributed License Manager**
    e. **IMPAX Messaging Service**

f. **World Wide Web Publishing**

6. Upgrading the IMPAX database schema to IMPAX 6.5.3

(Topic number: 60244)

Important!

Only specific IMPAX upgrade paths are supported and it may not be possible to upgrade certain versions or SUs. More information is provided in the *IMPAX 5.x–6.x Service Update and Hot Fix Migration Paths* spreadsheet in the Additional documents section of the IMPAX Knowledge Base > Main Knowledge Base Page.

Upgrading the database schema to 6.5.3 requires the IMPAX Migration Tools. For Migration Tools installation instructions, see "Installing the Migration Toolbox on a Windows server" (topic number 11493) in the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

When upgrading the database, you will be prompted for the report source. When prompted, supply the value stored in the requesting_service field in the Connectivity Manager database. To prepare for the upgrade, identify this value in advance. See "Identifying the report source" (topic number 68030) in the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

CAUTION!

Any customization to the database—such as extra indexes, stored procedures, or triggers—may affect the schema upgrade. We recommend removing such customizations prior to the upgrade.

To upgrade the IMPAX database schema to IMPAX 6.5.3

1. On the Database Server, open a command prompt.
2. Change to the **C:\mvf-mig6\bin** directory.
3. Type **database-upgrade-script.bat -v *version***

   where *version* is one of **52**, **53**, **62**, **63**, **64**, or **65**. If upgrading from IMPAX 6.5.*x*, the version parameter can be omitted.

   If running this command on a server that will be replaced, and that does not have .NET installed, you will get a `block_named_pipes.exe: not finding the dynamic link library mscoree.dll` error. Ignore this error and continue with the upgrade, since the replacement server will be running Windows 2008, which installs .NET automatically.
4. At the prompt

   ```
   Ready to upgrade database to version 6.5.3. Do you want to proceed [y, n]?
   ```

   Type **y** to continue.
5. If prompted for the fully qualified host name of the login server, type the fully qualified host name of the Application Server.

6. When prompted for a report source, if the Connectivity Manager query you ran previously returned a single value, use that value as the report source. If the query returned multiple values for the requesting_service field, consult a Connectivity Manager integrator, as mappings may also need to be changed.

   If this Connectivity Manager receives data from multiple report sources, then a few requesting_service values may exist that match each report source.

7. Respond appropriately to other prompts that appear.

The database is upgraded.

In the IMPAX database, confirm that the values of the requesting_service field match those in the Connectivity Manager. Open a SQL Server Management Studio query window and type

use mvf;

select distinct requesting_service from dosr_study;

7. Checking the status of SQL Server upgrades

(Topic number: 9914)

After upgrading the database, check the log file to ensure that the upgrade was successful.

Important!

We recommend checking the migration log file after each leg of an upgrade before moving on to the next leg.

To check the status of SQL Server upgrades

1. Open the log file C:\mvf-mig6\data\logs\migrate_database_to_IMPAX6.5.3.log.
2. If the following warning appears in the log file, you can safely ignore it:

   ```
   Warning: The table 'CHANGE_CONTEXT_DETAIL' has been created but its maximum
   row size (8095) exceeds the maximum number of bytes per row (8060). INSERT
   or UPDATE of a row in this table will fail if the resulting row length exceeds
   8060 bytes.
   ```

3. Ensure that `Migration Complete Successful` appears at the end of the log file.

   If this message does not appear, review the rest of the log file to see where the upgrade failed. Solve the problem, then rerun the upgrade script.

8. Updating the SQL Server registration

(Topic number: 7604)

To correctly register SQL Server with the Database Server software and set up permissions within SQL Server, update the SQL Server registration. To do so, you must be logged into Windows as an administrator-level user.

To update the SQL Server registration

1. Select **Start** > **All Programs** > **Microsoft SQL Server 2008**.
2. Right-click **SQL Server Management Studio** and select **Run as**.
3. In the Run as dialog, select **The following user**.
4. From the User name list, select **AgfaService**.
5. In the Password field, type the password for the AgfaService account and click **OK**.

9. Scheduling additional SQL database backup jobs

(Topic number: 46983)

Note:

Ensure that you are logged in using the AgfaService account; you cannot log into SQL Server Management Studio using the Administrator account.

This procedure applies to SQL Server 2008 R2.

After upgrading SQL Server, to guard against information loss, manually back up the database again (refer to page 32), then confirm that you can configure a schedule_backup job.

CAUTION!

If backups are not created regularly, the transaction log fills up and eventually halts the operation of your system. Also note that you must do an initial backup of your database. Otherwise, SQL Server assumes that you do not want transaction logs maintained.

A schedule_backup job is automatically installed and enabled with the software package. This backup is scheduled to run at 12:00 midnight every day. In addition to the schedule_backup job, you can enable and schedule the differential or incremental database backup jobs, if required.

To configure an additional time to run a database backup at, perform the task that follows.

To schedule additional SQL database backup jobs

1. Ensure that you have done an initial manual backup of your database (refer to page 32).

2. If not already started, start the SQL Server Agent service through the SQL Server Configuration Manager.
3. Open the SQL Server Management Studio.
4. In the Object Explorer window of the Management Studio, expand ***server*** > **SQL Server Agent** > **Jobs**

   where *server* is the name of the SQL Server that the program is running under.
5. Right-click **schedule_backup** and choose **Properties**.
6. In the Properties dialog, switch to the **Schedules** tab.
7. Click **New**.
8. In the New Job Schedule dialog, in the **Name** field, type **Daily Backup**.
9. Set other configuration options as appropriate for site requirements.
10. To apply the changes, click **OK**.
11. If you are configuring a disk backup:
    a. Switch to the **Steps** tab.
    b. Select **Edit**.
    c. In the Command field, type **exec sp_backup_database @dump_device_name='disk_backup1'**.
    d. To apply the change, click **OK**.
12. To close the Job Properties dialog, click **OK**.
13. Exit the SQL Server Management Studio.

10. Upgrading other AS300 servers to IMPAX 6.5.3

(Topic number: 134879)

As applicable, you can now upgrade any existing AS300 Archive Server, Network Gateway, and Curator server stations to IMPAX 6.5.3.

Remember that only Archive Servers using HSM archiving can be upgraded to IMPAX 6.5.3.

Note:

The IMPAX 6.5.3 AS300 server platform is Windows Server 2008 R2 SP1. Existing servers can be restaged with this operating system, assuming that the hardware is 64-bit compatible. All upgrades are forklift upgrades and involve fresh installations onto restaged or new hardware. For more details, refer to the *IMPAX 6.5.3 AS300 Installation and Configuration Guide* or to the *IMPAX 6.5.3 Curator and CD Export Server Installation Guide*.

Prior to a forklift upgrade of an IMPAX AS300 Network Gateway, Archive Server, or Curator, any critical files should be backed up to an appropriate location. During the upgrade itself, the files on the new server can be compared with that of the old server.

11. Upgrading Application Servers to IMPAX 6.5.3

(Topic number: 134882)

Upgrade all Application Servers (except the one being used in the temporary DAA cluster) to IMPAX 6.5.3.

Note:

The IMPAX 6.5.3 Application Server platform is Windows Server 2008 R2 SP1. If necessary, existing servers can be restaged with this operating system, assuming that the hardware is 64-bit compatible. All upgrades are forklift upgrades and involve fresh installations onto new hardware. For more details, refer to the *IMPAX 6.5.3 Application Server Installation, Upgrade, and Configuration Guide*.

12. Manually upgrading the IMPAX Client from IMPAX 6.2 or later

(Topic number: 51459)

As appropriate, upgrade IMPAX Client stations to IMPAX 6.5.3.

To manually upgrade the IMPAX Client from IMPAX 6.2 or later to IMPAX 6.5.3

1. Verify that the hardware and operating system are compatible with IMPAX 6.5.3.
2. Optionally, manually uninstall the IMPAX Client.
3. Run the Microsoft .NET Framework 3.5 SP1 installer package.
4. Run the IMPAX 6.5.3 Client installer package.

   For details, refer to "Upgrading the IMPAX Client" (topic 7996) in the *IMPAX 6.5.3 Client Installation, Upgrade, and Configuration Guide*.
5. Verify the IMPAX Client upgrade.
6. Configure any new functionality in the IMPAX Client.
7. Install any related software.

13. Restarting antivirus software

(Topic number: 9916)

If you have antivirus software installed and have halted any scan jobs, restart the antivirus services.

To restart antivirus software

1. On a Windows server where scanning was stopped, launch the antivirus software.
2. Start the scan operation according to the vendor's instructions.

14. Testing the installed software

(Topic number: 61185)

After installing the new version of IMPAX, perform certain tests to verify that the installation was successful.

To test the installed software

1. On the IMPAX Database Server, run the Administration Tools and ensure that you can log in using the administration password.
2. On the Application Server, open a web browser and connect to **http://localhost**. Ensure that the "Welcome to IMPAX" page is displayed.
3. Run the IMPAX Client and ensure that you can log in using the administration password.

15. Restarting an archive queue

(Topic number: 32239)

Restart the Archive queue or queues that were halted before the IMPAX upgrade.

To restart an archive queue

1. Log into the IMPAX 6.5.3 Administration Tools.
2. On the Daily tab, select **Job Manager**.
3. In the queue list, select the archive queue.
4. Click **Restart**.

16. Restarting Connectivity Manager queues

(Topic number: 67610)

If Connectivity Manager is currently deployed, and you have stopped any queues, use the Queue Manager to restart them. Once the queue is restarted, messages sitting in them are processed.

To restart Connectivity Manager queues

1. In the Connectivity Manager Service Tools, click **Queue Manager**.

2. In the Queue List table, select the checkbox beside the queue of any system device or real world device with a `DM Out` or `impax_report_server` Component.

   The Status of the queue should be `Stopped`.

3. Click **start**.

   The Status of the queue changes to `Started`.

17. Taking a post-upgrade system snapshot

(Topic number: 6845)

After upgrading to IMPAX 6.5.3, use the migration_inventory tool to capture the state of the system to compare it with the previous IMPAX system. Perform this task on any computer on which the Migration Tools have been installed that can access the 6.5.3 Database Server.

To take a post-upgrade system snapshot

1. In a command prompt or terminal window, change to the directory containing the migration_inventory tool.
2. On a Windows server, type

   migration_inventory -s -d *database_name* -U *database_user_name* -P *database_password* -D *Database_Server_host_name*

   The output is stored in the migration_info table. It lists the number of IMPAX studies, total objects, and objects in cache. It also lists all IMPAX source stations and DICOM printers.

3. To create a report file with this information, type

   mig_reporter -t system_inventory_tool (Windows)

This command writes the output of the migration_inventory command to a report file in the /usr/mvf-mig6/reports or C:\mvf\mig6 directory.

18. Comparing pre- and post-upgrade snapshots

(Topic number: 6895)

Open the report file that contains the pre- and post-upgrade snapshot information. Compare the pre- and post-upgrade information. Ensure that all expected studies, objects, stations, and DICOM printers are still listed.

Migrating the archive

5

If you are using a temporary DAA cluster to manage the migration of studies previously archived in direct attached archives to HSM archives, convert the DAA entries to PACS Store and Remember initially, then to HSM.

1. Installing PACS Store and Remember on the IMPAX 6.5.3 cluster

(Topic number: 132671)

To convert DAA entries to PACS Store and Remember, install and configure a PACS Store and Remember AE title on the IMPAX 6.5.3 cluster, then install the PMTS tool set on the PACS Store and Remember server of that cluster.

You can install the PACS Store and Remember component on any non-Archive Server of the new IMPAX 6.5.3 cluster, including any of the Network Gateways or the Database Server.

Important!

These tasks are applicable only to a parallel migration with DAA Server scenario or with an HSM archive that will remain in the old cluster. Converting a cached Network Gateway to a PACS Store and Remember archive is not supported.

Install a separate PACS Store and Remember archive for each DAA archive. For example, if the legacy IMPAX system has two DAA libraries, install two PACS Store and Remember servers on the IMPAX 6.5.3 system.

1. Adding a PACS Store and Remember archive

(Topic number: 9215)

To configure an external PACS archive as a PACS Store and Remember archive, set up the external PACS archive in Network Management in the IMPAX Administration Tools.

To add a PACS Store and Remember archive

1. Launch and log into the IMPAX Administration Tools.
2. On the Setup tab, click **Network Management**.
3. To set up a new destination, click **New**.
4. Type the AE title of the external PACS archive.

   If adding the PACS archive for DAA consolidation purposes, use a temporary AE title here, such as SR_EXT. Later, this is changed to the AE title of the old archive.
5. Type an alias for the archive.
6. Type the host name or IP address of the archive.
7. Click **Save**.
8. Switch to the **Capabilities** tab.
9. From the list at the bottom of the manager, select the added external PACS archive.
10. Under Station Type, select **PACS**.
11. Under Server is Allowed to, select **Query/Retrieve from Station**.
12. If using different AE titles on the external PACS archive for store and retrieve jobs, repeat steps 3 to 11 for the retrieve AE title.
13. Click **Save**.

    If migrating a Direct Attached Archive (DAA), do not run the install_pacs.bat or install_pacs script. The PMTS tool handles this.

2. Connecting to PACS Store and Remember in the other cluster

(Topic number: 125161)

You must connect the temporary DAA cluster to the upgraded IMPAX 6.5.3 PACS Store and Remember archive.

To connect to PACS Store and Remember in the other cluster

1. Obtain and install an archive license key on the new PACS Store and Remember server.
2. On the temporary DAA system, log into the IMPAX Administration Tools
3. On the Setup tab, click **Network Management**.
4. Add the IMPAX 6.5.3 system. Save the settings.

5. Verify that the external archive is listed in the **hosts** file of the temporary DAA system.
6. To confirm that the external archive can be accessed, ping the external archive using the host name or IP address.

2. Converting DAA entries to PACS Store and Remember

(Topic number: 123349)

This topic assumes that you have already acquired and installed PMTS on the production system, following the instructions in "Installing the PMTS package on the IMPAX production system" (topic number 124907) in the *AS300 Preparing to Upgrade Guide—IMPAX 4.5, 5.2, 5.3, or WEB1000 to IMPAX 6.5.3* or the *AS300 Preparing to Upgrade Guide—IMPAX 6.2 or Later to IMPAX 6.5.3*.

Because the database on the IMPAX 6.5.3 system was upgraded from the previous IMPAX system, it contains references to the DAA system that is no longer supported. Use a re-referencing tool to convert these DAA entries to PACS Store and Remember archive entries.

To convert DAA entries to PACS Store and Remember

1. On the IMPAX 6.5.3 Database Server, open a command prompt and change to the **C:\mvf\bin** directory.
2. To mark all DAA references as offline, type

   bash mvf-offline-vols -x

   If the following message appears, it indicates a bash version issue:

   ```
   NOTE: Using the -x to execute updates will update all AE_REFs if there are
   multiple AE_REFs listed above.
   ```

3. If you need to work around the bash version issue, in the command prompt, type

   bash

   $.\mvf-offline-vols -x

   exit

4. To verify that all DAA references are offline:
   a. Ensure that the script ends by displaying HSM and offline studies.

      For example:

      ```
      1002 H   1.00000
      1004 O   2.00000
      ```

      In this output `H` indicates *HSM* and `O` indicates *offline*.

   b. Log into the Administration Tools and select **Study Manager**. Ensure that all DAA archived studies are marked off-line.

   c. Launch CLUI, run the following statement, and ensure that studies are listed as offline:

      select count(*) from dosr_study_location where volume_type = 'O'

5. To convert the DAA entries to PACS Store and Remember, on the PACS Store and Remember server, open a command prompt and type

   convert_to_remote_archive.exe -A *PACS_AE_title* [**-R *retrieve_PACS_AE_title***] [**-S *source_archive_AE_title***]

   where *PACS_AE_title* refers to the external Store and Remember archive configured on the IMPAX 6.5.3 system and *source_archive_AE_title* refers to the DAA system to be replaced.

   Tip:

   You can also specify a log file by including **-l debug -f logfile** in the command.

6. Verify that all the offline studies are now marked as PACS archived.
   a. Open CLUI and type

      select count(*) from dosr_study_location where volume_type = 'P'

   b. Ensure that the following query returns a count of zero:

      select count(*) from dosr_study_location where volume_type = 'O'

   c. In the Administration Tools Study Manager, ensure that the offline studies are marked PACS archived.
7. If you want to prevent additional archiving to this PACS Store and Remember archive, open CLUI and type

   Delete from dosr_archive_destination where queue_ref = *Store_and_Remember_archive_queue_ref*

   Delete from dosr_study_destination where queue_ref = *Store_and_Remember_archive_queue_ref*
8. Check the log file for any errors. Should you find any, contact Agfa Professional Services for assistance as you may need to manually update the database before running the tool again.

Note:

Check the concurrency of the newly added PACS Store and Remember archive and, depending on the site, determine whether it should be modified or left as is.

3. Removing references to old caches and archives from the IMPAX 6.5.3 servers

(Topic number: 123352)

The upgraded IMPAX 6.5.3 database may contain references to caches and archives from the old cluster that are no longer part of the IMPAX 6.5.3 cluster. Once the caches and archive locations themselves are removed, you can use a tool to remove references to them.

To remove references to old caches and archives from the new servers

1. On the IMPAX 6.5.3 Database Server, open a command prompt and change to the **C:\mvf\bin** directory.
2. To remove image caches and locations of DAA archives that are no longer applicable, type

   bash mvf-remove-caches -a *DAA_archive_AE_title*

   After removing caches, the `is_cached` flag in the dosr_study may not be accurate.
3. To fix the `is_cached` flag, type

   Select module_ref from mvf_ts_config where module_name = 'UPDATE_IS_CACHED' and ae_ref = *local_AE_reference*

   Signal WAKE_MVF_TASK_SCHEDULER_MODULE *module_ref_from_previous_command* MVF_TASK_SCHEDULER
4. To remove all references to DAA archives in the old cluster that are no longer applicable to the new IMPAX 6.5.3 cluster, type

   mvf-remove-ae.exe -d mvf -U mvf -P mvf *AE_title* -l debug -f logfile

   Tip:

   To find the AE title for a specific station, open CLUI and run the **select * from map_ae** command.
5. Check the log file for any errors.
6. If using a temporary PACS archive, to rename it with the AE title of the DAA archive server in the old cluster, type

   modify_ae_title.exe -o *current_AE_title* -n *target_AE_title* -l debug -f logfile

   For example:

   `C:\mvf\bin>` **modify_ae_title.exe -U sa -P sa -o SR_EXT -n ASJDVD -l debug -f logfile**
7. Check the log file for any errors.
8. For the PACS Store and Remember archive to work successfully (if using), add back any cached systems from the temporary DAA cluster to the IMPAX 6.5.3 database.

   Assign them the same configuration in Network Management as you did for the PACS Store and Remember archive destination.

4. Removing references from the database running the previous version of IMPAX

(Topic number: 123355)

Important!

Before removing the old AE titles from the new system, determine whether to maintain the Task Scheduler settings. This is especially important if they have been changed from the default settings. The Primary Task Scheduler is normally the one running on the Database Server.

Remove all references to caches and archives of the old cluster that are not part of the temporary DAA cluster.

To remove references from the database running the previous version of IMPAX

1. Copy the **MVFdact.exe** file to the temporary DAA server and run the file.
2. Open a command prompt on that server and change to the **C:\mvf\bin** directory.
3. To remove references to HSM server image caches and locations that are only in the IMPAX 6.5.3 system, type

   bash mvf-remove-caches -a *HSM_AE_title*

   This bash script has no log files. All of the information is output to the screen.
4. To remove references to the HSM server archive locations, type

   mvf_remove_archive.exe -A *HSM_AE_title* -d mvf -U mvf -P mvf -Q -l debug –f logfile

   Important!

   De-referencing HSM server archive location may take between 4 and 8 hours, depending on the system and the size of the archive being removed.
5. To remove image caches and locations of Network Gateways that are no longer applicable, type

   bash mvf-remove-caches -a *Network_Gateway_AE_title*

   After removing caches, the `is_cached` flag in the dosr_study may not be accurate.
6. To fix the `is_cached` flag, type

   Select module_ref from mvf_ts_config where module_name = 'UPDATE_IS_CACHED' and ae_ref = *local_AE_reference*

   Signal WAKE_MVF_TASK_SCHEDULER_MODULE *module_ref_from_previous_command* MVF_TASK_SCHEDULER
7. To update the primary task scheduler setting in map_ini if it exists, type

select * from map_ini where ini_section = 'MVF_TASK_SCHEDULER' and ini_key = 'PRIMARY_SERVER' .

8. To copy the Task Scheduler settings from the 6.5.3 Database Server to the temporary DAA server, open CLUI and type

   Update map_ini set ini_value = '*new_Database_Server_AE_title*' where ini_section = 'MVF_TASK_SCHEDULER' and ini_key = 'PRIMARY_SERVER'

   If this entry does not exist, insert it instead of updating.

9. To maintain the old settings for the Primary Task Scheduler, delete the new ones by typing

   Delete from mvf_ts_module_config where ae_ref = *new_Database_Server_AE_title*

   Delete from mvf_ts_config where ae_ref = *new_Database_Server_AE_title*

10. To update the existing entries to point to the upgraded system, type

    Update mvf_ts_module_config set ae_ref = *new_Database_Server_AE_reference* where ae_ref = *old_Database_Server_AE_reference*

    Update mvf_ts_config set ae_ref = *new_Database_Server_AE_reference* where ae_ref = *old_Database_Server_AE_reference*

11. Restart the Task Scheduler on the temporary DAA Database Server.
12. Repeat steps 6–9 for the Secondary Task Schedulers and whenever the default values have been modified in the temporary DAA system.
13. To remove all references to HSM archives and Network Gateways that have migrated to the IMPAX 6.5.3 cluster, type

    mvf-remove-ae.exe -d mvf -U mvf -P mvf *AE_title* -l debug -f logfile

    Run this script once for each AE title to remove.

14. Check the log file for any errors.

5. Validating the archives in the IMPAX 6.5.3 system

(Topic number: 125072)

Verify that the DAA consolidation was successful and that all archives are functioning properly in the new IMPAX 6.5.3 system.

To validate the archives in the IMPAX 6.5.3 system

1. Log into the IMPAX Administration Tools.
2. On the Daily tab, click **Job Manager**.
3. Ensure that a PACS Archive queue exists.
4. Click **Study Manager**.

5. Query the system and confirm that, as expected, studies in the old system with a DAA location (for example, T) now have a PACS location (P).
6. To validate retrieval from the archives, perform the following tests:
    a. In the IMPAX 6.5.3 Administration Tools, open the Study Manager and select some studies marked as PACS archived (P). In the IMPAX Client, view the studies.

       A study is retrieved from the PACS archive (the old DAA archive) only if it does not exist in any cache.
    b. In the IMPAX 6.5.3 Client, display a study with a PACS location (P).
    c. In the IMPAX 6.5.3 Administration Tools, open the Study Manager to archive a cached test or sample study to the HSM archive. Carefully delete the test or sample study from all caches. In the IMPAX Client, display the study.

6. Migrating image data

(Topic number: 125197)

Important!

This task applies to sites that have a DAA archive and need to migrate studies from it to the HSM archive of the new IMPAX 6.5.3 system. Or, to sites having to migrate studies from Network Gateway caches on an old IMPAX system to IMPAX 6.5.3.

Use the Volume Migration Tool (VMT) to migrate image data. For VMT software and documentation, refer to http://ftp.agfa.be/HE/software/PACS/General/VMT/ (user name and password required) or contact Agfa Professional Services.

To migrate image data

1. Install and configure the VMT software on both IMPAX systems.
2. If applicable, migrate studies from the Network Gateway caches on the old IMPAX system to the new IMPAX 6.5.3 system.
3. From the temporary DAA system, migrate the archived studies from the legacy archive to the new IMPAX 6.5.3 HSM archive.
4. Check the migration results.

7. Deleting the PACS Store and Remember archive locations

(Topic number: 123370)

After all studies have been migrated from DAA to HSM, the PACS Store and Remember archive locations can be deleted from the IMPAX 6.5.3 system.

To delete the PACS Store and Remember archive locations

1. Open a command prompt and change to the **C:\mvf\bin** directory.
2. To delete the archive locations, type

   mvf_remove_archive.exe -a *PACS_archive_AE_reference*

   Optionally include options -l for the log level and -f for the log file name.

   > **Note:**
   >
   > De-referencing the archive location might take between 4 to 8 hours, depending on the system and the size of the archive being removed.

   If the script fails with a `Failed to remove archiver queue or similar error`, rerun the script.
3. To update the entry in mvf_scu_service for the PACS Archive ae_ref to disable PACS Store and Remember archiving, type

   update mvf_scu_service set pacs_archive_ae_ref = 0 where ae_ref = *PACS_archive_AE_reference*
4. If you are not using the PACS Store and Remember archive any longer, delete the associated caches by typing

   bash mvf-remove-caches -a *PACS_archive_AE_title*
5. When ready to decommission the temporary DAA system, remove its PACS Store and Remember archive reference by typing

   mvf-remove-ae.exe -d mvf -U mvf -P mvf *PACS_archive_AE_reference*

   Optionally include options -l and -f in the command.
6. Check the log file for any errors. If any appear, contact Agfa Professional Services.
7. Decommission and disconnect the temporary DAA cluster.

Post-upgrade checking and stabilization

6

Some tasks are performed after the 6.5.3 upgrade is complete.

1. Migrating a cache volume from a flat to a hierarchical structure

(Topic number: 102251)

Important!

If upgrading from IMPAX 6.5 or later, the caches may have already been migrated to a hierarchical structure; this task can then be skipped.

Before starting the migration, verify the condition of the caches:

1. Install the MVFcachecheck package.
2. Run the mvf-clean-cache tool.
3. If the mvf-clean-cache output indicates that there are problems, resolve them.

IMPAX stores DICOM objects in cache so that they can be displayed, transmitted to other DICOM devices, and archived. Prior to IMPAX 6.5, the cache structure was flat (each cache volume contained one directory), which limited the cache size, because once a certain number of objects were in the directory, access to the cache could become slow. Large sites have resolved this by deploying numerous cache volumes, which can be difficult to manage.

As of IMPAX 6.5, a hierarchical cache structure is supported for image and web caches, permitting larger cache volumes. The old flat cache structure continues to be supported; only new images arriving in the system or existing images retrieved from archive are written to cache using the hierarchical structure. However, the cache migration tool allows a site to migrate its existing caches to this hierarchy if it would like to immediately take advantage of the hierarchical structure.

Note:

The cache migration tool is included in the MVFCache (Windows) and IMPAXmvfc (Solaris) packages, which are part of the standard IMPAX install packages.

To migrate a cache volume from a flat to a hierarchical structure

1. At a command prompt on the system where the cache volume is local, type

   cache_migration.exe [**-S** ***source_cache_volume*** **-D** ***destination_cache_volume*** **-X** ***delay_in_seconds*** **-F** ***number_of_files*** **-T** ***number_of_threads*** **-I** ***time_in_minutes*** **-f** ***log_file***]

Parameters	Values	Default value
-S ***source_cache_volume***	The cache volume to migrate from. If the destination volume is different from the source volume, ensure that the source cache volume is closed before running the cache-migration tool. When closed, new images cannot be received by this volume, which will likely be removed after the migration. To close the cache volume, start the CLUI tool and type **cache close** ***volume_ref***	Not applicable. If not specified, you are prompted to choose from a list.
-D ***destination_cache_volume***	The cache volume to migrate to. It can be the same as the source volume. There should be enough space in the destination volume for all the studies in the source volume.	Not applicable. If not specified, you are prompted to choose from a list.
-X ***delay_in_seconds***	The amount of time in seconds before the original files are deleted. If not specified, the original files are not deleted. If 0, the original files are deleted immediately.	Not applicable
-F ***number_of_files***	The maximum number of cache files to be handled by each thread in the application; a performance-tuning parameter.	`100`
-T ***number_of_threads***	The number of threads that handle the copying of files; a performance-tuning parameter.	`3`
-I ***time_in_minutes***	How often to report on the progress of the migration, in minutes.	`5`
-f ***log_file***	Log file name	Not applicable

Tip:

Use the **-?** parameter to view usage or help information.

Example:

```
cache_migration.exe -F 500 -T 4 -I 2 -f migration.log
List of eligible cache volumes
1000 : /cache/mvfcache
1001 : /cache/vcacheRSNA2003
1002 : /cache/newcache
Source volume_ref? 1000
Destination volume_ref? 1000
Delete original files (Y/N)? y
How long to wait to delete (sec)? 10
```

After the migration, verify the condition of the caches:

1. Run the mvf-clean-cache tool.
2. If the mvf-clean-cache output indicates that there are problems, resolve them.

For details about configuring the cache directory structure, see "Configuring the hierarchical cache directory structure" (topic number 102687) in the *IMPAX 6.5.3 Server Knowledge Base*.

2. Uninstalling the IMPAX Migration Tools from a Windows computer

(Topic number: 47239)

Once all migration tasks and post-migration checks are completed, you must uninstall the IMPAX Migration Tools from all Windows-based computers on which they are installed. This is a legal requirement.

To uninstall the IMPAX Migration Tools from a Windows computer

1. Open Control Panel.
2. On Windows 2003 servers, select **Add or Remove Programs**.

   On Windows 2008 servers, select **Programs and Features**.
3. Select **IMPAX 6.5.3 AS300 Migration 6.5.3.*xxx***

   where *xxx* is the build number.
4. On Windows 2003 servers, click **Change/Remove**. On Windows 2008 servers, click **Uninstall**.
5. In the Confirm File Deletion dialog, click **Yes**.
6. At the Uninstall complete prompt, click **Finish**.

3. Uninstalling the Cross-Cluster Dictation Interlock tool

(Topic number: 60396)

If you no longer have to synchronize the dictation status of studies between the previous version and the 6.5.3 IMPAX systems, you can uninstall the components of the Cross-Cluster Dictation Interlock tool.

To uninstall the Cross-Cluster Dictation Interlock tool

1. On the previous version IMPAX Application Server where the Cross-Cluster Dictation Interlock components were installed, open the Windows Administrative Tools and select **Services**.
2. Right-click the **Impax Study Status Relay** service and select **Stop**.
3. Close the Services window by selecting **File** > **Exit**.
4. Open a command prompt.
5. Change to the directory containing the Cross-Cluster Dictation Interlock components—possibly C:\Program Files\Agfa\Impax Business Services.
6. Type **uninstall_study_status_relay_service.bat**.
7. Close the command prompt by typing **exit**.
8. From Windows Explorer, navigate to and delete the **study-status-signal-relay** folder (possibly from C:\Program Files\Agfa\Impax Business Services).
9. On the IMPAX 6.5.3 Application Server where the 6.5.3 Cross-Cluster Dictation Interlock components were copied, follow steps 1 to 7.
10. Log into a previous version IMPAX Client as an administrator user.
11. From the Configure area - Users and Roles section, delete the **remote-dictation** user from the Study Status Relay role, then delete the **Study Status Relay** role.
12. Log into an IMPAX 6.5.3 Client as an administrator user and repeat the previous step on it.

All components of the Cross-Cluster Dictation Interlock tool are now removed.

Upgrade and installation tool reference

A

Reference information is available for some of the tools and programs used when upgrading.

IMPAX AS300 installation programs

(Topic number: 7684)

IMPAX 6.5.3 AS300 includes two installation programs for Windows Server 2008 R2 servers.

Program	Purpose
setup.bat (Oracle for 64-bit Windows DVD)	Install the appropriate version of Oracle Server for Windows Server 2008 R2
as300-installer.exe (IMPAX AS300 installation DVD)	Install or upgrade an AS300 Database Server on Windows Server 2008 R2, under Oracle or SQL Server Install or upgrade an AS300 single-host server Install or upgrade an AS300 Network Gateway, Archive Server, Curator, or Cached Workstation

Note:

SQL Server 2008 R2 is not distributed with IMPAX but is available from the Agfa Parts Center.

AS300 installer packages reference

(Topic number: 7682)

The standard IMPAX AS300 installer groups the packages to install under four sections: default, database, archive, and optional. The following tables explain each package.

Default

Depending on the configuration of IMPAX being implemented, certain packages may not be supported.

Default packages	Purpose
MVFCore	Installs the DICOM services for IMPAX and contains several core Windows services and database tables used by IMPAX.
MVFCache	Installs the DICOM SCU and autopilot services used by IMPAX and spftp services. MVFCache includes mvf_compressor, used for lossy compression, and cache_migration, used to migrate cache volumes from a flat to a hierarchical structure.
MVFNetworkGateway	Installs the SCP and APIP-SCP services used by IMPAX. Install this package only on stations that require Network Gateway functionality. Servers that support only internal transfers, not incoming DICOM communications, do not require it.
AdministrationTools	Installs the Java Administration Tools application for configuring and managing IMPAX. It also copies the Java Runtime Environment (JRE) self-extracting executable onto the system. The package can be installed on more than one server, but run only one instance at a time (by disabling the other Administration Tools services).
MVFocr	Installs the files necessary to enable Optical Character Recognition. This is an optional installation that works in conjunction with the MVFNetworkGateway package. Install it only if your system requires OCR. The OCR package installs default OCR templates to handle many different modality vendors. OCR training tools are not included with IMPAX.
VaultAgfa	Includes specific requirements and database extensions.

Database

Only one of the two Database Packages can be installed. Install these only on single-host servers or dedicated Database Servers.

Database packages	Purpose
Oracle Server Extension	Contains the files necessary to build an Oracle Server database to be used by IMPAX.
SQL Server Extension	Contains the files necessary to build a SQL Server 2008 R2 database to be used by IMPAX. For upgrades only.

Archive

Depending on the configuration of IMPAX being implemented, an archive package may not be supported.

Archive packages	Purpose
MVFhsm	Installs the HSM package.

Archiving considerations:

- If the server is used for viewing only (no archiving), do not install any archive package. Do not install archive packages on standalone stations.
- PACS Store and Remember archiving is available but does not require an installation package. It does require an archive license.

Optional

Depending on the configuration of IMPAX being implemented, certain packages may not be supported.

Optional packages	Purpose
MVFCompressor	Installs the MVF Compressor package, which includes mvf_compressor_scheduler. The mvf_compressor_scheduler process is responsible for scheduling the lossy compression of images.
MVFScavenger	Do not install. Previously used for direct attached archives, which are no longer supported.
MVFCurator	Installs the Curator package. The Curator process compresses incoming images into Mitra wavelet format and stores them in the web cache. Studies compressed by the Curator process are served locally or over a network to display clients.
MVFcdexport	Installs the CD Export server, used with the CD Export feature in the IMPAX Client. The CD Export server processes local burn jobs created by the IMPAX Client and prepares the zip files containing the data for the burn job. For instructions on using CD Export, see "Exporting and viewing images from CD or DVD" (topic number 8209) in the *IMPAX 6.5.3 Client Knowledge Base: Extended*.

Optional packages	Purpose
MVFchangeaccepter	Installs a package related to the processing of change context (cc) objects. This feature is not required and we recommend that this package not be installed.
MVFpap	Installs the PAP package. A PACS Archive Provider (PAP) acts like a Service Class Provider (SCP) by receiving studies and allows sites to have their studies mirrored at another site through PACS Store and Remember archiving. This mirroring protects against data loss and enables studies at one PACS to be viewed at another. For instructions on configuring a PAP, see "Configuring a PACS Archive Provider (PAP)" (topic number 11586) in the *IMPAX 6.5.3 Server Knowledge Base*.
MVForadg	Installs a set of scripts and tools for configuring and monitoring Oracle Data Guard. **Important!** Data Guard works **only** on servers running Oracle Enterprise Edition. Do not install it on a Database Server using SQL Server or Oracle Standard Edition, and do not include it on other types of servers (Archive Server, Network Gateway, Curator, standalone).

IMPAX packages found in the registry

(Topic number: 58575)

The following are IMPAX 6.2 or 6.3 packages that may be found in the registry. You may see some or all of these packages, depending on your configuration and the version of IMPAX installed. As of IMPAX 6.4, packages are listed in Control Panel instead.

Default packages	Location in HKEY_LOCAL_MACHINE\SOFTWARE\
MVFCore	Mitra Imaging Inc.\MVF Core v*number*
MVFCache	Mitra Imaging Inc.\MVF Cache v*number*
MVFSqlserver	Mitra Imaging Inc.\MVF SQLServer Extensions v*number*
MVFNetworkGateway	Mitra Imaging Inc.\MVF Network Gateway v*number*
AdministrationTools	Mitra\AdministrationTools
MVFocr	Mitra Imaging Inc.\MVF Ocrv*number*

Archive packages	Location in HKEY_LOCAL_MACHINE\SOFTWARE\
MVFjdlt *	Mitra Imaging Inc.\MVF JDLT v*number*
MVFjdvd *	Mitra Imaging Inc.\MVF JDVD v*number*
MVFscdr *	Mitra Imaging Inc.\MVF SCDR v*number*
MVFhsm	Mitra Imaging Inc.\MVF HSM Archive v*number*
MVFsdlt *	Disregard if found

Optional packages	Location in HKEY_LOCAL_MACHINE\SOFTWARE\
MVFCompressor	Mitra Imaging Inc.\MVF Compressor v*number*
MVFScavenger *	Mitra Imaging Inc.\MVF Archive Scavenger v*number*
MVFCurator	Mitra Imaging Inc.\MVF Curator v*number*
MVFcdexport	Mitra Imaging Inc.\MVF CD Export v*number*
MVFpap	Mitra Imaging Inc.\MVF PACS Archive Provided v*number*

* No longer supported in IMPAX 6.5.3.

PMTS scripts reference

(Topic number: 125234)

The following table provides an overview of the PMTS scripts. These tools are available from Agfa. They are not distributed with the IMPAX software.

PMTS tool	Function
migrate-mi-server-database and migrate-it-ws-database	Upgrades the database schema from IMPAX 4.5 to 5.2.
mvf-remove-caches (bash script)	Removes image cache and cached locations from the database.
mvf-remove-web-caches (bash script)	Removes web cache and cached locations from the database.
mvf_remove_archive	Removes archive and archive locations from the IMPAX 6.2 and later database.
mvf_remove_archive_pre6	Removes archive and archive locations from the IMPAX 5.3 and earlier database.
mvf-offline-vols (bash script)	Sets DAA library volumes as OFFLINE.

PMTS tool	Function
convert_to_remote_archive	Converts DAA entries to PACS Store and Remember entries.

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Cygwin

(Topic number: 121758)

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Oracle® Database

(Topic number: 148001)

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Xerces C++ Parser, version 1.2

(Topic number: 121761)

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Log4Net

(Topic number: 7648)

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Zlib

(Topic number: 7595)

zlib.h -- interface of the 'zlib' general purpose compression library version 1.2.2, October 3rd, 2004

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Glossary

A

Administration Tools

Administration Tools control the configuration and management of the entire IMPAX cluster. The Administration Tools are a Java-based application that run in a web browser.

all-in-one configuration

A configuration in which the Database, Archive Server, Network Gateway, and Curator Server components are all installed on a single Windows server, along with the Application Server software.

APIP

Agfa Proprietary Imaging Protocol. Used to receive the proprietary format, reformat the images to DICOM, and redirect them to the SCP. An APIP SCP is used specifically to receive images from certain older Agfa image sources.

archive

A physical device or a file system used for long-term storage and retrieval of studies.

Autopilot

Service that removes old and expired data when the cache starts to get full. This maintenance function keeps the database to a manageable size.

B

backing up

The activity of copying a database to preserve it in case of a software or hardware failure.

browser

Software that allows a user to search through information on a server. The term usually refers to a universal client application, such as Firefox or Internet Explorer, that interprets HTML documents.

C

cc objects

Change Context (cc) objects are DICOM objects used to communicate and synchronize study metadata changes across multiple IMPAX clusters.

CLUI

Command Line User Interface. A command-line tool to help in the service of IMPAX MVF. CLUI allows you to execute SQL statements.

compression

Reduces the size of a file to save both file space and transmission time. Lossless, lossy, and wavelet are examples of compression types.

Curator

Curator is an IMPAX MVF server component. It is responsible for compressing incoming

images into the Mitra Wavelet format and storing them in the web cache. These studies can be accessed by remote or local clients.

D

database

A collection of data that is organized so that its contents can easily be accessed, managed, and updated.

DICOM

Digital Imaging and Communications in Medicine. The standard communication protocol used by a PACS, HIS, or modality to exchange information or images with other systems.

H

HIS

Hospital Information System. The database used by a hospital to manage patient information and scheduling.

HIS verification

An option that forces the PACS to verify all incoming images from an acquisition station or modality against specific criteria, such as the patient ID and accession number. The PACS sends a message through the RIS Gateway to verify the criteria against what is contained in the HIS. If the criteria match, then the images can be stored permanently.

HSM

Hierarchical Storage Management. An HSM archive system provides long-term storage of data and access to data. Studies archived with HSM are stored to a file system. A mount point and subdirectory to store studies to is specified. The HSM system handles data storage.

HTTP

Hypertext transfer protocol, a TCP-based protocol for transferring hypertext requests and information between servers and browsers.

J

jukebox archive

An archive with one or more drives where media is loaded, with multiple slots that hold the media for easy storage retrieval, and with a robotic changer to move media around within the jukebox.

L

log file

A file or set of files containing a record of the actions and modifications made in an application. Service teams use log files during setup and configuration of the system or its components. Logs are also used to diagnose problems. Logging can typically be set to record varying levels of detail.

M

mirroring

Creating backup copies of all clinical data so that damaged data can be recovered if the original is lost.

modality

An imaging discipline, such as CT, or a device that gathers digital information, such as digitizers for X-ray film, MRI scanners, and CR devices.

N

Network Gateway

The Network Gateway is part of the IMPAX MVF cluster. Essentially, this is the workflow manager of the IMPAX 6.0 and later system. The Network Gateway controls the studies

coming into the cluster from an acquisition station, validates these incoming studies against information from the HIS or RIS, and routes the validated studies to cache or archive.

non-jukebox archive

Functions much like a jukebox archive, except that it has no mailslots or changer. In a non-jukebox archive configuration, a volume is considered to be offline when it leaves the drive, whereas in a jukebox configuration, the volume is considered offline when it leaves the jukebox—either via a mailslot or by manually reaching in the case and retrieving the volume.

O

OCR

Optical Character Recognition is the recognition of printed or written characters by a computer. If a modality generates images into the system but not enough information about a study is sent, OCR templates read information directly from the burned demographics.

P

PAP

PACS Archive Provider. A PACS Archive Provider (PAP) acts like a Service Class Provider (SCP) in that it receives studies. However, it differs from an SCP in that the PAP can automatically register a study as PACS archived if the study originates from a source that the PACS stores to and remembers from, without having to queue the study for archiving back to the source. The PAP can also parse the private tags of the incoming DICOM objects to determine HIS verification and study status.

permissions, IMPAX

Permissions define the available IMPAX features and types of studies that users in a particular role have access to. Permissions are made up of a set of operations.

S

SCP

Service Class Provider. A DICOM server that receives requests from an SCU. The DICOM SCP accepts images for processing, processes find and retrieve requests, and handles storage commitment requests and replies.

SCU

Service Class User. Primarily sends DICOM requests to an SCP.

single-host configuration

A configuration in which the Database, Archive Server, and Network Gateway server components are all installed on a single server.

standalone configuration

In an IMPAX standalone configuration, the IMPAX AS300 Server, Application Server, and Client software are all installed on the same Windows server.

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